

Though far removed from politics and war, the subject of this article makes itself heard to you almost every day right outside your own window.

BIRD SIGNALS

By CHRISTINE McLAUGHLIN

IS it not strange to reflect that, while of the family of mammals man alone is truly talkative, the bird family is garrulous as a whole? Whenever two or more birds of a kind meet they start talking, unless, indeed, the weather is too miserable for words. Birds are very sensitive to the weather, being depressed in bad and cheerfully voluble in good weather. Light has a noticeable effect on them, as witness the increase in bird song as spring brings with it longer and brighter days. Larks love the sunlight; and swallows too, to judge by their exhilarated twittering, love best the days of brilliant blue sky when they skim back and forth high up in the air filling it with their cheery voices. Some cage birds will start singing by electric light no matter whether it is day or night outside.

But rain by no means extinguishes the inclination in birds to sing. On the contrary, the soft, warm showers of May and June lend a wonderful impetus to the song urge, and the rain-veiled air is vibrant with a variety of voices. In daytime the disposition to sing is less influenced by light and far more so by humidity than is generally realized. Warmth, humidity, and diffused sunlight appear to form the ideal combination inciting birds to sing.

LOUD AND MUTE SIGNALS

On any fine day in spring or early summer, trees and hedges are full of bird voices. In the plane trees the doves thrum their low call untiringly. The bulbuls in the red maple keep on burring tranquilly. On a roof some distance away a pair of magpies sit exchanging remarks. The dove, the bulbul, the magpie—each in its way is giving vocal expression to the mood of the moment: the sense of security and of joy in the brightness of the hour. Reduced to the simplest terms it is the sentinel's reassuring "All's well!" that they utter. The bulbuls call it to each other, so do the magpies up on the roof, so the noisy mynahs,

so the finches in the Chinese ash. All keep on telling each other over and over again that all's well.

Some kinds of birds post sentinels; but, speaking generally, each bird stands sentinel on its own life and fortune all the time. That is why you see them always alert, constantly changing position, and cocking their heads now this way, now that. The habit of signaling and of endorsing the signal by repetition comes in very useful here, as it quickly spreads the news, good or bad, over a large area. If the bulbuls burr placidly, not only all the other bulbuls within earshot know that there is nothing to worry about, but the members of other species too; for every bird understands the signals, at least the most important ones, of all the other birds.

About now, having listened rigidly motionless all this time, your leg goes to sleep, or your foot has sunk too deep into the soft loam and you betray your presence by some involuntary movement or sound. All at once the bird that had ventured close, unsuspecting, breaks off its song abruptly. This is the alert for the immediate neighborhood. The fluting of the oriole in the next tree ceases instantaneously, the bulbuls hush, the tits slip away quietly. All around the atmosphere is tense with the silence of alarm. Thus abrupt silence, particularly in birds of a talkative disposition, is as effective a signal to the birds as a loud alarm call.



Golden Oriole

Generally speaking, the mute signal serves as a preparatory alert while the loud signal is a very definite alarm bugle. The oriole will give a strident shriek reminiscent of the azure-winged magpie's call instead of merely falling silent. The dove

Roused, in a fright her sounding wings
she shakes;

The cavern rings with clattering

A sparrow flushed from its nest makes for a near-by branch and sits there chattering from shock for perhaps two minutes together. And when the azure-winged magpie



Common or spotted-necked Dove

catches sight of a cat creeping along beneath its perch, it lets loose a flood of shrill abuse that puts all the birds around on guard.

MOBBING THE MAGPIE

This goes to show that no hard and fast rules can be given for the responses (vocal or otherwise) of birds; and this is only to be expected, birds being neither mechanical contrivances nor chemical compounds regularly giving the same reactions to the same type of stimuli. They are complicated living organisms; and if one wishes to approach a real understanding of the ways and the nature of birds it is as well to assume the presence of a far greater degree of complexity and variability in their temperamental make-up than is generally allowed for.

Meanwhile, you having made no further suspicious movement, the birds regain their confidence and begin to utter notes of tranquillity. But not for long. For one of the pied magpies on the roof suddenly decides to invade the grounds. Its progress is attended by the sharp cries of alarm and anger of all the birds who have nests in the vicinity. But the bulbuls, casting caution to the winds, go to the attack. A little

band of five or six, they whirl furiously around the black giant, spluttering threats and rage and abuse. It is the burring note you hear. Before, in the shrubs, it was soft and murmurous; but now, fierce and long-drawn, what different feelings it expresses. It is no longer the signal: All's well! It is the call to arms against the foe and rolls incessantly till he has been driven off.

SONG—A SIGNAL

The excitement has stimulated the bird population. The mynahs at opposite ends of the garden start to toss off their shrill calls alternately, timing them neatly as if they were playing ball. The blackbirds begin to sing and the finches to exchange their interrogatory whistles. Then the bulbul puffs out its chest and ringingly defies all the world. Brave and hilarious is the bulbul's song; and from all directions where bulbuls are, answering challenges come ringing back. From a dozen different places the listener is assailed by the "song" of birds.

The popular idea that it is joy that makes a bird sing probably originates in the fact that people in general never hear a bird unless it is singing, and then only if the tune is melodious. But song is not a peculiar trick to be considered by itself. It is just one more signal, and the gander's trumpet and the cock's cry fall into the same category as the thrush's tuneful witchery, for the birds do not seem to share our ideas about what is musical and what is merely noisy.

Is it joy that makes the lonely cage bird sing, or the solitary migrant stop to give its ditty? It is rather the call for companions of its own kind, for a mate. Or it may be that the bird is singing to comfort itself in its solitude, just as Gilbert White, most famous of all bird observers, an English naturalist who lived in the eighteenth century, already suspected birds which spend the winter months in flocks of being motivated to some extent by the "helplessness of their state in such rigorous seasons; as men crowd together, when under great calamities, though they know not why?"

In winter during a cold snap birds will sing, possibly because the exercise stimulates circulation. A rifle report will set a bulbul chortling and a blackbird singing from fright. And a canary was known to sing so furiously whenever the piano was played

that the owner gave up playing lest the bird sing itself to death from excessive nervous excitement. No, it is not always joy that makes a bird sing.

And in spring the song signal carries a number of different meanings. Singing, the bird announces to all the world where it has staked its claim and defies any cock to dispute its title to it; singing wildly, it meets challenge with challenge, proclaims its victory, attracts the hen bird; and singing and sparring, it disposes of rivals.

Clearly, song, even if we leave out singing from sudden fright, is not a paean of joy, though upon occasion it may be: it is a signal. It may be called the signal of self-assertion in its widest sense, embracing aggressiveness, the call for a mate, exuberant spirits, etc.

SIGNALS AND MOODS

Any bird signal, whether note or song or call, conveys a message. Under different conditions or in different seasons the identical signal may express dissimilar, even opposite, meanings. The various shades of meaning may be reflected in a change in the frequency or emphasis of the signal—or not. And when we hear a bird express patently dissimilar things by means of signals which to the human ear sound exactly alike, any analogy which perhaps we were tempted to perceive between the human language and that of the birds is destroyed.

The birds' "language," as for lack of a better term we must continue to call it, has nothing in common with our languages. There is no structure to it and, far from there being any sort of vocabulary, the number of signals of any one bird can usually be counted on the fingers of one hand. However, the signals become intelligible at once if we see in them the equivalents of our "loud" thoughts and feelings, of our outcries, exclamations, laughter, weeping, etc., particularly of our hm! haw! or oh! Who would venture to list and define the meanings of any one of these? Yet nobody finds any difficulty in understanding the exclamation, however different its meaning from previous occasions.

The bird thinks and feels "aloud" continually. A cat is angry all over from its lashing tail to its spitting mouth and purrs

when it is pleased; the dog has its bark and its whine, when angry it growls, and its tail takes care of its joy. In a bird the whole gamut of feelings and thoughts and responses is expressed by signals; and being an extremely high-strung creature, it reacts to the slightest stimuli at once and very positively—by signaling. Its vocal faculties play a role of paramount importance in a bird's life. The signals are the principal—if we except posturing as in courtship and the trick many birds share of twitching the tail when nervous or excited—we might say, the sole means of self-expression at a bird's disposal.

The signals are the bird's responses to external and transient impressions like daily changes in the weather, the passage of a marauder, or the discovery of a rival. But the type of signal predominantly used depends on the bird's prevailing mood, which passes through various phases in the course of one year, and these are occasioned by changes occurring in its organic condition. Hence we have the song phrase, the call of self-assertion with its multiple shades of meaning, at its strongest and finest in spring; then it is the



Bulbul

call to arms in defense of the chicks which we hear most often; later again renewed snatches of song, as from the blackbird after the molting, or a change of signal, as in the tit which in autumn mostly reduces its short phrase to two syllables; during winter some birds make an occasional imperfect effort at song, while others appear to forget their song phrase completely and content themselves with short calls.

Furthermore, the identical signal may express at one time the momentary response and at another the prevailing mood; this is especially the case with song as well as with the mute signal. During hard cold rain, all the birds fall silent from sheer misery, and during a stifling noon hour they hush, creeping listlessly about the twigs which no breath of air stirs. Here silence is a sign of temporary depression and, if occurring during the song phase, stands in blunt contrast to the prevailing urge toward vocal activity. On the other hand, silence becomes the expression of a prevailing mood during molting, when the physical discomfort associated with it makes many birds disinclined to lift their voices. Again most of the smaller birds, unless suddenly

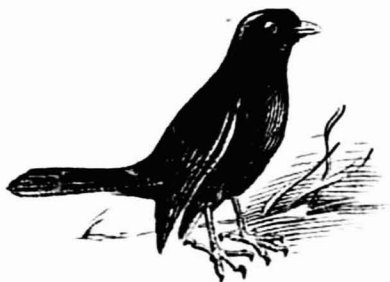
frightened, keep absolutely silent while they have chicks in the nest. At this time the cessation of bulbul song, for example, might easily deceive one into thinking that they had left the district for some unaccountable reason, so quiet and stealthy is their behavior.

BIRDS AND ACOUSTICS

Listening to the birds and watching their ways awakens respect for their excellent good sense, and presently leads one in all seriousness to entertain theories involving a measure of intelligence on the part of the birds which one would have denied them before.

The cooing of doves hidden in impenetrable foliage, the blackbird's cheery "Hallo everybody!" the call of the bulbul—how full their voices sound from the domes of dense-leaved trees. Are birds aware of the fine acoustic properties of such trees as the planes or the neighborhood of echoing buildings? Do intelligent birds like blackbirds and bulbuls consciously take advantage of the presence of good acoustics? This question is not entirely unreasonable. For if, as we have seen, unfavorable conditions suppress the song impulse while favorable ones (warm, showery days, the neighborhood of a rival, etc.) have the opposite effect, is it unreasonable to argue that good acoustics will stimulate the bird to sing on and on in that particular spot . . . that returning accidentally it remembers . . . that presently it will make this spot its favorite song perch, realizing that here its song comes out stronger and finer than anywhere else?

Of course, any such theory can only be entertained on the supposition that the birds themselves are fully aware of their vocal faculties. And this is just what we find. If the bird watcher listens to and studies the signals as providing the most reliable guide to field identification, he is



Blackbird



Crested Mynah

simply borrowing the method the birds themselves employ to distinguish friend from foe, members of their own species from strangers or from closely allied species very similar in appearance and frequenting the same haunts. The distinctive notes daunt a weaker rival, attract the hen, and prevent any attempt at crossbreeding. But obviously the most distinctive notes would fail in their purpose if the birds themselves did not pay close attention to them and were unable to differentiate among them.

IMITATION AND IMPROVISATION

There can be no doubt that birds take the liveliest interest in their own and other birds' vocal powers, as well as in any strange interesting sound which they then mimic to the best of their ability.

The urge to copy, including as it does the impulse to repeat signals, accounts for the greater part of the twittering and warbling that continues from dawn to dusk. It makes for such polyglots as the mynah and the blackbird. Wilkinson, the author of *Shanghai Birds*, gives several instances of the copying of other bird signals, among them that of a blackbird giving a perfect imitation of a finch's whistling phrase. The copying of bird signals appears to be a pastime quite a number of birds delight in.

But the birds' interest is not confined to bird notes. It extends to purely mechanical noises. The local mynah, for instance, was one day heard accurately copying the harsh rasping sound of a lawn mower at work near by every time it rattled over the grass. One among several theories concerning the woodpecker's drumming has it that, while originally merely the unavoidable by-product of his food-hunting methods, the bird grew so delighted with the sound produced that, whenever it strikes a resonant branch, it keeps on hammering just for the

sake of the music. If this is correct then the drumming is in a fair way of becoming a proper signal!

Some birds can be taught to mimic words. Better still, as we have seen, birds will learn spontaneously by imitation and improvisation. A species of songbirds does not imply equally talented songsters as anyone will admit who has kept canaries. On the other hand, experiments have shown that a common sparrow brought up with canaries will, according to its gifts, make a more or less successful effort to sing like them. Even in their wild state a flock of sparrows may, though admittedly only rarely, be heard to indulge in a mellow warbling strikingly different from their usual shrill chatter.

FROM REPTILE TO SONGBIRD

The vocal faculty differs among species; it differs among individuals of the same species; it is subject to changes; it is capable of development—all this because it is the bird's principal means of expression and because the bird takes the keenest interest in sig-

nals and sounds of all kinds. This leads to the conclusion that the successive generations of a species do not signal and sing alike.

A comparison of bird language to our own generally proves misleading rather than elucidating; yet we can safely draw a parallel in so far as the bird's language is a flexible living thing, like our living tongues, such as English or German. Just as our modern languages register changes in the course of a few decades, changes which reflect intellectual and spiritual developments, so we can guess by inference at the tremendous changes which have taken place in the language of the birds in the course of the milleniums since they first took to the air, spurning the lowly crawling existence of the reptile from which they descended, or rather

ascended! To reflect on their history gives one the sensation of a gripping crescendo. They are still animated by the evolutionary urge. And there is much sense in the remark of one writer that the nightingale Cleopatra heard on the banks of the Nile did not sing the same tune as the modern nightingale in our woods.

Pied Woodpecker



Girl and Soldier

Tall (6 ft. 1 in.), 22-year-old Barbara Brown of Detroit got mad when a soldier failed to show up for a date—and took it out on the Army.

A onetime telephone operator, Barbara marched to a telephone, called the police, represented herself successively as the operator at Fort Wayne, Selfridge Field, and Wayne County Airport. Her message: all soldiers on pass in the area return to their stations at once. More than 2,000 did, leaving drinks, dates and shows and a trail of blue air. Barbara finally looked up a policeman and confessed. Said she: "If I couldn't have him I was making sure no one else could."

Barbara was arrested, then released. Reason: there is no law against such japery.

Couldn't Take It

In Elwood, Ind., Grocer Harrison Holmes listened to a customer complain for an hour about rationing, got a gun and shot him dead.